

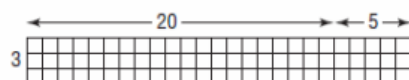
# 5.5

## Multiplying and Dividing a Polynomial by a Constant

### FOCUS

- Use different strategies to multiply and divide a polynomial by a constant.

How does this diagram model the product  $3 \times 25$ ?



What property is illustrated by this diagram?

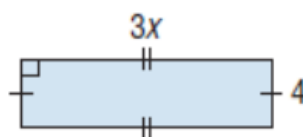
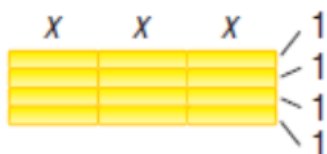
How could you use the diagram above to model division?

MULTIPLYING ONLY

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### Connect

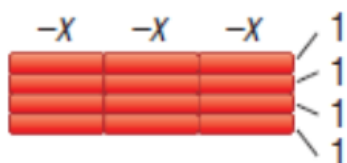
The expression  $4(3x)$  is a product statement.



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## Connect

$4(-3x)$  is the product of 4 and the monomial  $-3x$ .



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### Example 1

### Multiplying a Binomial and a Trinomial by a Constant

Determine each product.

a)  $3(-2m + 4)$

b)  $-2(-n^2 + 2n - 1)$

**SOLUTION:**

a)  $3(-2m + 4)$

Use AlgebraTile

Distributive Property

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**Example 1****Multiplying a Binomial and a Trinomial by a Constant**

Determine each product.

a)  $3(-2m + 4)$

b)  $-2(-n^2 + 2n - 1)$

**SOLUTION:**

b)  $-2(-n^2 + 2n - 1)$

Use AlgebraTile

Distributive Property

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**YOU TRY!**

Determine the product

$-4(n^2 - n)$

**SOLUTION:**

Use AlgebraTile

Distributive Property

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YOU TRY!

Determine the product

$$-4(k^2 - 4k + 2)$$

**SOLUTION:**

Use AlgebraTile

Distributive Property

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**Discuss**  
the **ideas**

1. How could you use multiplication to verify the quotient in a division question?

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## Practice

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